Finance Recruiting Interview Preparation

Accounting and Enterprise Value

Session #1

Introduction & Limestone Capital Offering

Finance Interview Preparation Workshops

- "Preparing for finance recruiting isn't just skimming The Vault anymore. Students should study for recruiting like a course and do their homework, because the final exam is the interview."

  – VP, Recruiter for Queen's
- Like a course, there should be:
  - "Homework:" regular readings are necessary
  - Practice (mock interviews)
  - Comprehensive, accessible resources for all interested students
- The most important "exam" of a finance student's life

Limestone Capital Offering

- **4 Sessions:** Customized curriculum to prepare you to answer any technical finance questions that recruiters may throw at you
  1. Accounting, Enterprise Value
  2. Comparable Analysis & Precedents
  3. Introduction to DCFs
  4. M&A & Leveraged Buyouts

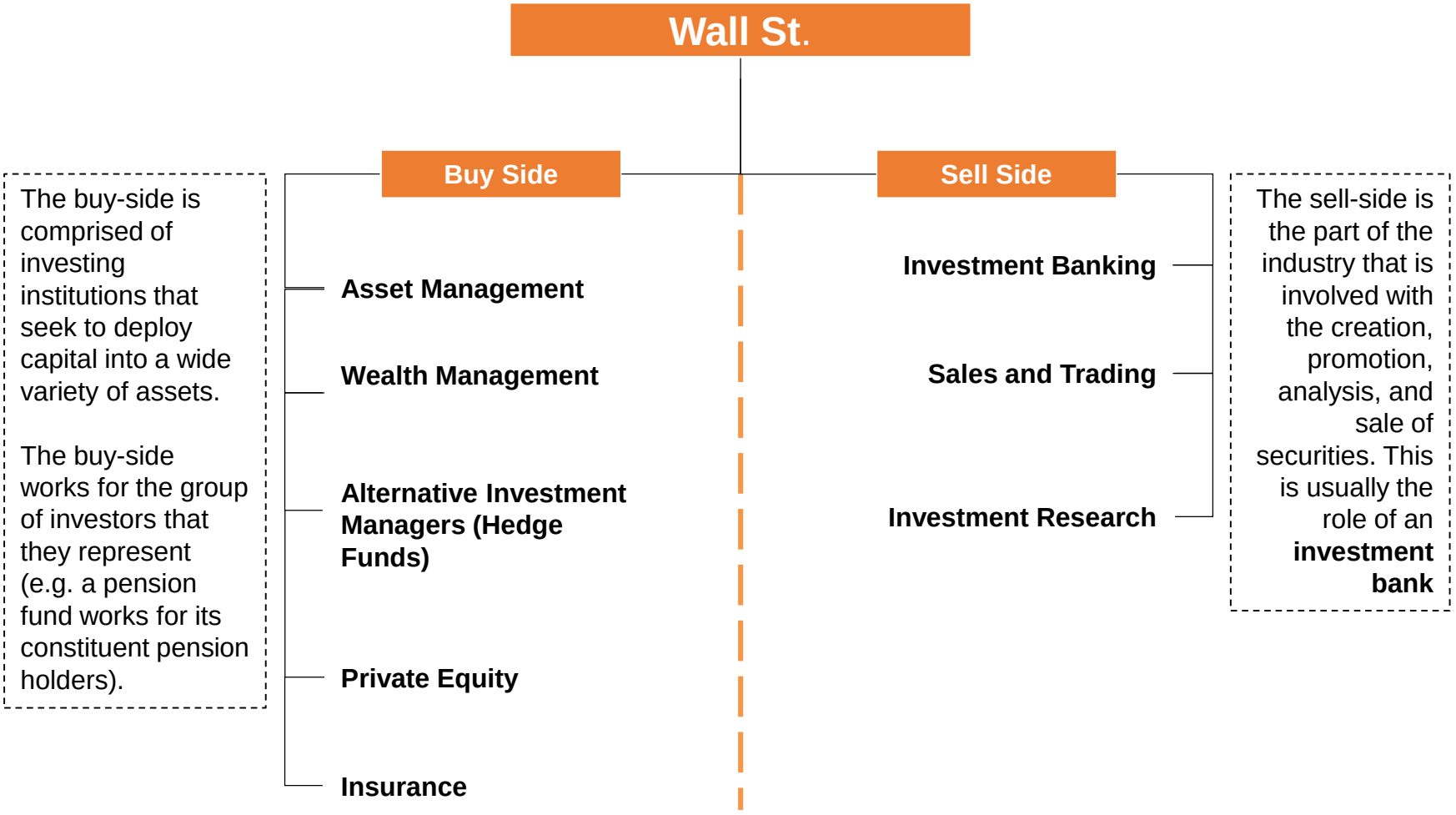
Rationale

- Candidates differentiate themselves by knowing hard M&A and LBO questions
- Queen's needs to offer comprehensive resources to continue being competitive
- You will not learn the required knowledge from class
- It is insufficient to memorize an interview guide from WSO, WSP, M&I, Vault, walk into an interview, and hope you get the same questions
- Start early! Recruiting is being pushed up earlier every year

Agenda

1. Intro to Finance Recruiting
2. Accounting
3. Enterprise Value

Overview: The Structure of ‘The Street’



Financial Services Opportunities

Undergraduate Roles Are Available In…

Investment Banking

Industry Groups:
- Metals & Mining (BMO)
- Financials
- TMT (CIBC)
- Real Estate (TD, Brookfield)
- Healthcare
- Consumer
- Infrastructure
- Diversified
- Oil & Gas (Calgary)

Product Groups
- M&A
- Equity Capital Markets
- Debt Capital Markets
- Syndication
- Restructuring

Sales & Trading

Groups:
- Equity
- Fixed Income
- Economic
- Quantitative
- Sovereign

Equity Research

Groups:
- Equity
- Fixed Income
- Derivatives
- Currencies
- Automated Trading
- Asset-Backed Securities

"Buy-Side"

- Private Equity / Venture Capital
- Pension Funds
- Asset Management
- Wealth Management

Limestone Capital's Interview Preparation Workshops are catered towards students interviewing for Investment Banking, and the "Buy Side", but also contains crucial knowledge required for other career streams.

Summer Opportunities in Finance

First Years

- Business Development & Strategy
- Commercial Banking, Retail Banking
- Unpaid/paid internships for portfolio managers, asset managers, investment advisors (CIBC Wood Gundy, RBC Dominion Securities, etc. See below.)
- Oil & Gas Companies

Wealth Management

RBC Dominion Securities

TD Waterhouse

National Bank Financial Wealth Management

CIBC Wood Gundy

ScotiaMcLeod

BMO Nesbitt Burns

Second Years

Private Equity

Ontario Teachers' Pension Plan

Altas Partners

InstarAGF Asset Management

CPP Investment Board

OMERS

Asset Management

Burgundy Asset Management Ltd.

MacKenzie Investments

Gluskin Sheff

Clarington Investments

Fidelity Investments

Sentry Investments

Inv. Banking / Corp. Banking / S&T

National Bank

CIBC

Paradigm Capital

Scotiabank

BMO Capital Markets

Summer Opportunities in Finance

The "Big 6" Canadian Banks

"Bulge Bracket" Investment Banks

"Boutique" Investment Banks

Firms That Don't Actively Recruit Queen's Students

Summer Opportunities in Finance

The "Buy Side": Private Equity, Pension Funds, Venture Capital, Asset Managers

- Firms listed above have recruited Queen's students, but do not necessarily come to campus
- CPPIB, OTPP, OMERS, PSP, Burgundy, and Mackenzie post position and/or come to campus
- All "Big 6" Canadian Banks also recruit for their asset management divisions
- Advisory wings of "Big 4" accounting firms (Deloitte Financial Advisory, KPMG Corporate Finance, PwC Deals, EY M&A Advisory) will have you do the exact same work as investment banks, but for smaller clients or transactions

Process, Interviewing, Offers

Timeline and Details

Process (Third Year)	▪ U.S. Investment Banking processes for third-year internships being in the spring of a student's second year and continue throughout the summer ▪ Toronto Investment Banking processes for third-year internships begin in the summer and continue throughout the fall
Process (Second Year)	▪ Most second year summer recruiting processes will occur during the Fall and continue throughout the winter semester
Types of Questions & Preparation	▪ Fit / Behavioral ▪ Market-Based Question ▪ Technical Questions ▪ **Prep:** Mock Interviews, Limestone Sessions, BIWS, Rosenbaum & Pearl
Interviews	▪ **First Rounds:** 30 minutes to 60 minutes, on-campus or phone ▪ **Second Rounds or "Superday":** 4 – 5 hours at the firms' office
Offers	▪ Non-expiring ▪ Exploding ▪ Firms may accelerate the process for you if you have an exploding offer ▪ Game theory is necessary; know who you're up against

Finance Recruiting Interview Preparation

Accounting

Session #1

Agenda

1 Intro to Finance Recruiting

2 Accounting

3 Enterprise Value

Accounting

How will $10 of additional depreciation affect the 3 financial statements?

Income Statement

Accounting

How will $10 of additional depreciation affect the 3 financial statements?

Income Statement

- Start with the income statement
- Depreciation expense goes up by $10
- Pre-tax income goes down by $10
- Ask for the tax rate, or state your tax rate assumption
  - Usually assume a tax rate of 40% for simplicity
- If your company loses $10, then they won't have to pay the 40% of tax
  - $4 less tax
  - After tax, net income is only down by $10 - $4 = $6
- You can also think of the depreciation expense as a tax shield
  - Net income is down by $10 * (1-tax rate) = $10 * (100% – 40%) = $6

Income Statement

Depreciation	(10)
Pre-Tax Income	(10)
Tax rate	*40%*
Foregone tax	4
Net Income	(6)

Accounting

How will $10 of additional depreciation affect the 3 financial statements?

Step 2: Cash Flow Statement

- Go to cash flow statement
- First line item is net income
- Net income is down by $6, as established from before
- Add back non-cash operating expenses
- Depreciation of $10
- Cash increase = NI increase (decrease) + depreciation

  = ($6) + $10 = $4

Net income	(6)
Add back:	
Non-cash operating expenses	
Depreciation	10
Increase (decrease) in cash position	4

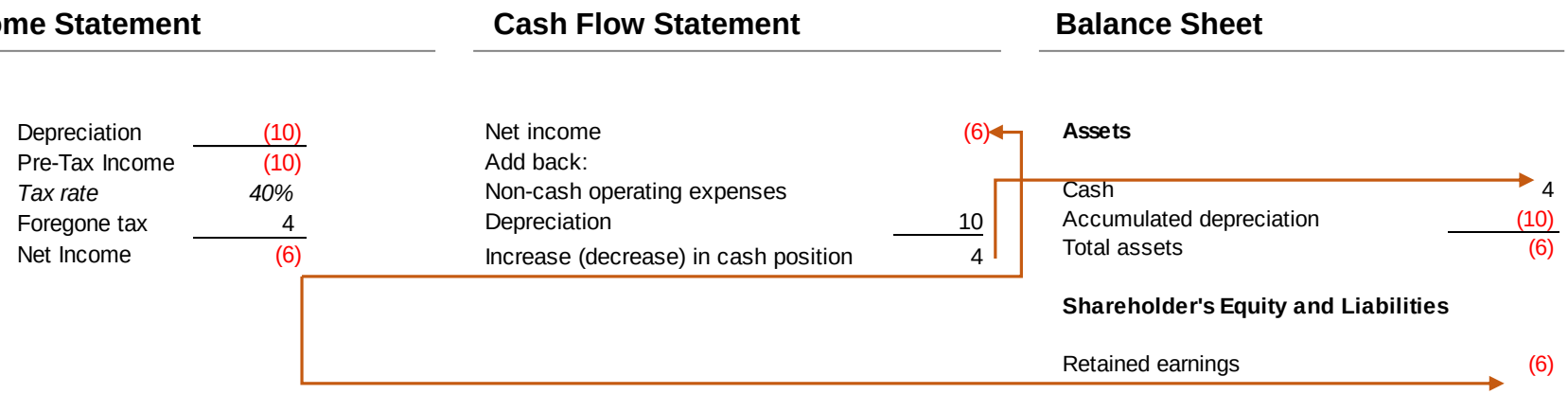
Step 3: Balance Sheet

- Go to balance sheet
- Cash position has increased by $4, as mentioned previously
- Accumulated depreciation (contra-asset) has gone up by $10
  - Net assets gone down by $10
  - Overall, assets have gone down by $6
- Net income is linked to retained earnings on balance sheet
- Therefore, retained earnings has gone down by $6
- The Assets and the Liabilities and Shareholder's Equity side both go down by $6, so they balance

Assets	
Cash	4
Accumulated depreciation	(10)
Total assets	(6)
Shareholder's Equity and Liabilities	
Retained earnings	(6)

Accounting

How will $10 of additional depreciation affect the 3 financial statements?



All 3 Statements Connected

- Net income flows to cash flow statement and retained earnings
- Cash flow statement flows to cash position in balance sheet
- Always go from income statement to cash flow statement to balance sheet
  - Methodology of addressing income statement, then cash flow statement, then balance sheet should be applied to any accounting questions in your interviews.
  - What happens to all three statements when inventory goes up by $10, assuming you pay for it with cash?

Accounting

Factory Acquisition Question, Part 1

$100 factory purchase with 50% debt, 50% cash. How does this affect all 3 financial statements?

- **Start by asking questions:**
  - What is the interest rate?
    - Assume 10%
  - What is the tax rate?
    - Assume 40%
  - What is the depreciation rate?
    - Assume 10%

Accounting

Factory Acquisition Question, Part 1

$100 factory purchase with 50% debt, 50% cash. How does this affect all 3 financial statements?

- **Start by asking questions:**
  - What is the interest rate?
    - Assume 10%
  - What is the tax rate?
    - Assume 40%
  - What is the depreciation rate?
    - Assume 10%

Income Statement

Accounting

Factory Acquisition Question, Part 1

$100 factory purchase with 50% debt, 50% cash. How does this affect all 3 financial statements?

- **Start by asking questions:**
  - What is the interest rate?
    - Assume 10%
  - What is the tax rate?
    - Assume 40%
  - What is the depreciation rate?
    - Assume 10%

Income Statement

Depreciation	-
Interest expense	-
Pre-tax income	-
Tax rate	*40%*
Foregone tax	-
Net Income	-

No Change

Accounting

Factory Acquisition Question, Part 1

$100 factory purchase with 50% debt, 50% cash. How does this affect all 3 financial statements?

- **Start by asking questions:**
  - What is the interest rate?
    - Assume 10%
  - What is the tax rate?
    - Assume 40%
  - What is the depreciation rate?
    - Assume 10%

Income Statement

Depreciation	-
Interest expense	-
Pre-tax income	-
Tax rate	*40%*
Foregone tax	-
Net Income	-

No Change

Cash Flow Statement

Operating cash flows	
Net income	-
Add back:	
Non-cash operating expenses	
Depreciation	-
Investing cash flows	
Investment in factory	(100)
Financing cash flows	
Debt financing	50
Increase (decrease) in cash position	(50)

Cash down $50

Accounting

Factory Acquisition Question, Part 1

$100 factory purchase with 50% debt, 50% cash. How does this affect all 3 financial statements?

- **Start by asking questions:**
  - What is the interest rate?
    - Assume 10%
  - What is the tax rate?
    - Assume 40%
  - What is the depreciation rate?
    - Assume 10%

Income Statement

Depreciation	-
Interest expense	-
Pre-tax income	-
Tax rate	*40%*
Foregone tax	-
Net Income	-

No Change

Cash Flow Statement

Operating cash flows	
Net income	-
Add back:	
Non-cash operating expenses	
Depreciation	-
Investing cash flows	
Investment in factory	(100)
Financing cash flows	
Debt financing	50
Increase (decrease) in cash position	(50)

Cash down $50

Balance Sheet

Assets	
Cash	(50)
PP&E	100
Accumulated depreciation	-
Total assets	50
Shareholder's Equity and Liabilities	
Debt	50
Retained earnings	-

Debt up $50, PP&E up $100

Accounting

Factory Acquisition Question, Part 2

$100 factory purchase with 50% debt, 50% cash. How does this affect all 3 financial statements?

- **Start by asking questions:**
  - What is the interest rate?
    - Assume 10%
  - What is the tax rate?
    - Assume 40%
  - What is the depreciation rate?
    - Assume 10%

- **One year has passed**
- Start with income statement
  - $50 of debt x 10% interest rate = $5 interest expense
  - $100 of P&E * 10% depreciation = $10

Accounting

Factory Acquisition Question, Part 2

Income Statement		Cash Flow Statement	Balance Sheet
Depreciation	(10)		
Interest expense	(5)		
Pre-tax income	(15)		
Tax rate	*40%*		
Foregone tax	6		
Net Income	(9)		

- Pre-tax income goes down by $10 + $5 = $15
- 40% tax rate
- Foregone tax = $15 x 40% = $6
- Net income goes down by $15 - $6 = $9
  - Can also be calculated as: $15 * (100% - 40%) = $9

Accounting

Factory Acquisition Question, Part 2

Income Statement		Cash Flow Statement		Balance Sheet
		Operating cash flows		
Depreciation	(10)	Net income	(9)	
Interest expense	(5)	Add back:		
Pre-tax income	(15)	Non-cash operating expenses		
Tax rate	*40%*	Depreciation	10	
Foregone tax	6	**Investing cash flows**		
Net Income	(9)	Investment in factory	-	
		Financing cash flows		
		Debt financing	-	
		Increase (decrease) in cash position	1	

- Pre-tax income goes down by $10 + $5 = $15
- 40% tax rate
- Foregone tax = $15 x 40% = $6
- Net income goes down by $15 - $6 = $9
  - Can also be calculated as: $15 * (100% - 40%) = $9

- Go to cash flow statement
- Start with net income decreasing by $9
- Add back depreciation of $10
- Cash goes up by $1

Accounting

Factory Acquisition Question, Part 2

Income Statement

Depreciation	(10)
Interest expense	(5)
Pre-tax income	(15)
Tax rate	*40%*
Foregone tax	6
Net Income	(9)

Cash Flow Statement

Operating cash flows	
Net income	(9)
Add back:	
Non-cash operating expenses	
Depreciation	10
Investing cash flows	
Investment in factory	-
Financing cash flows	
Debt financing	-
Increase (decrease) in cash position	1

Balance Sheet

Assets	
Cash	1
PP&E	-
Accumulated depreciation	(10)
Total assets	(9)
Shareholder's Equity and Liabilities	
Debt	-
Retained earnings	(9)

- Pre-tax income goes down by $10 + $5 = $15
- 40% tax rate
- Foregone tax = $15 x 40% = $6
- Net income goes down by $15 - $6 = $9
  - Can also be calculated as: $15 * (100% - 40%) = $9

- Go to cash flow statement
- Start with net income decreasing by $9
- Add back depreciation of $10
- Cash goes up by $1

- Cash flow statement is linked to balance sheet
- Cash is up by $1 (as per previous slide) in year 1
- $10 of depreciation decreases net assets by $10
- Net income down by $9 → Retained Earnings down by $9
- Assets down by $9, S / E down by $9

Accounting

Factory Acquisition Question, Part 3

What if the factory blows up in a year and we default on the debt?

Income Statement	Cash Flow Statement	Balance Sheet

Accounting

Factory Acquisition Question, Part 3

What if the factory blows up in a year and we default on the debt?

Income Statement

PP&E writedown	(80)
Debt writedown	50
Pre-tax income	(30)
Tax rate	*40%*
Foregone tax	12
Net Income	(18)

Cash Flow Statement

Balance Sheet

- Start with income statement
- Pre-tax income is down by $80 from PP&E writedown
  - 2 years of depreciation already in effect
- Pre-tax income goes up by $50 from debt writedown (no accrued interest)
- Pre-tax income is down $30 overall
- Net income is down by: $30 x (1 – tax rate) = $18

Accounting

Factory Acquisition Question, Part 3

What if the factory blows up in a year and we default on the debt?

Income Statement

PP&E writedown	(80)
Debt writedown	50
Pre-tax income	(30)
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- Pre-tax income is down $30 overall
- Net income is down by: $30 x (1 – tax rate) = $18

Cash Flow Statement

Net income	(18)
Add back:	
Writedown of PP&E	80
Less:	
Writedown of Debt	(50)
Increase (decrease) in cash position	12

- Go to cash flow statement
- Start with net income down by $18
- Add back (subtract) non-cash expenses (revenues)
- Add back $80 writedown of PP&E
- Subtract $50 writedown of debt
- Cash position increase = -$18 + $80 - $50 = $12

Balance Sheet

Accounting

Factory Acquisition Question, Part 3

What if the factory blows up in a year and we default on the debt?

Income Statement

PP&E writedown	(80)
Debt writedown	50
Pre-tax income	(30)
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Cash Flow Statement

Net income	(18)
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Writedown of PP&E	80
Less:	
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Increase (decrease) in cash position	12

- Go to cash flow statement
- Start with net income down by $18
- Add back (subtract) non-cash expenses (revenues)
- Add back $80 writedown of PP&E
- Subtract $50 writedown of debt
- Cash position increase = -$18 + $80 - $50 = $12

Balance Sheet

Assets

Cash	12
Net PP&E	(80)
Total assets	(68)

Shareholder's Equity and Liabilities

Debt	(50)
Retained earnings	(18)
S / E and Liabilities	(68)

- Go to balance sheet
- Cash goes up by $12
- Net PP&E goes down by $80
- Assets go down by $68
- Debt goes down by $50
- Retained earnings goes down by $18
- S / E + Liabilities go down by $68
- Assets and S / E + Liabilities balance

Other Accounting Questions

Q:

- **If you were stranded on a desert island, and you could only pick one financial statement to assess the health of a company, which statement would you choose and why?**
- Most people say income statement
  - But income is not cash flow
- Can you really evaluate the health of a company just by looking at an accounting number?
  - Remember the issues with earnings
  - Ignores factors like CAPEX, changes in working capital

A:

Q:

- **If you could only pick two statements…**
- Ask: do we assume that we have the balance sheet date for the current year and the prior year?
- If yes: choose income statement and balance sheet
- You can build the cash flow statement from these two
- If no: choose cash flow statement and balance sheet
- You can see net income on cash flow statement
- Cash flow is more relevant for assessing value
- Balance sheet is useful for assessing credit risk, ROA, etc.

A:

Other Accounting Questions

Q:

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- Most people say income statement
  - But income is not cash flow
- Can you really evaluate the health of a company just by looking at an accounting number?
  - Remember the issues with earnings
  - Ignores factors like CAPEX, changes in working capital

A:

- Correct answer is cash flow statement
- When valuing a company, we care about its cash flows, independent of its non-cash expenses
- We can already get net income from the cash flow statement anyways
- Net income is typically stated at the beginning of a cash flow statement
- We can see important items like changes in working capital and CAPEX
- Growing CAPEX suggests expansion
- Negative CAPEX suggests rationalization or restructuring

Q:

- **If you could only pick two statements…**
- Ask: do we assume that we have the balance sheet date for the current year and the prior year?
- If yes: choose income statement and balance sheet
- You can build the cash flow statement from these two
- If no: choose cash flow statement and balance sheet
- You can see net income on cash flow statement
- Cash flow is more relevant for assessing value
- Balance sheet is useful for assessing credit risk, ROA, etc.

A:

- If yes: choose income statement and balance sheet
- Can find changes in non-cash operating expenses from Current Assets / Liabilities
  - Increase in accounts receivable, prepaids, accounts payable
- Can derive investing cash flows (CAPEX) from Balance Sheet
  - Current year fixed assets - prior year fixed assets + depreciation
- Can find financing cash flows from Balance Sheet
  - Compare current year long term liabilities with prior year's
- Deriving equity financing is harder
  - B / S sometimes contains number of common shares
- Assuming no secondary equity issuance…
  - Dividends paid = Net Income – R / E (current year) + R / E (prior year)

Agenda

1	Intro to Finance Recruiting
2	Accounting
3	Enterprise Value

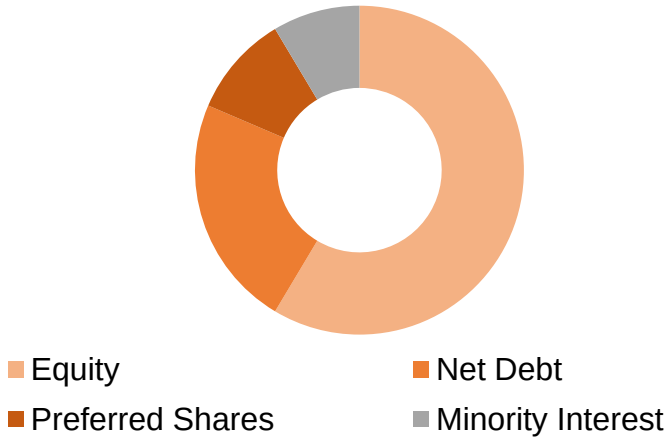
Enterprise Value

How is Enterprise Value Calculated?

- **Two ways to think about Enterprise Value (EV)**
  - Value of the firm's entire capital structure / "value of the firm's assets": both debt and equity
  - Theoretical takeover price (no control premium)

Enterprise Value = Market cap. + Preferred Equity + Minority Interest + Debt - Cash

Enterprise Value as "Slices of the Pie"



Why do we use Enterprise Value?

- Market cap. only measures the equity value
  - Ignores the rest of the capital structure
- Enterprise value represents the value of the firm to both debt and equity holders
  - The market value of **all capital** invested in the business
- Multiples using EV are **more "comparable"**

Enterprise Value

Why do we subtract cash from the capital structure in the EV calculation?

Theoretical Takeover Price

- Imagine buying a company that consisted of the following:
- Piggy bank with $99 inside
- The “piggy” is worth $1
- EV represents the theoretical takeover price
- Let the owner keep the $99, pay $1 for the piggy
- Buying cash with cash is redundant, so we net it out

Paying Off Debt with Cash

- If a company only has $10 of debt and $10 of cash on its balance sheet, it has an Enterprise Value of zero
  - You can pay off the $10 of debt with $10 of cash; this company is worthless
  - Debt - Cash = Net Debt

Minority Interest

What is minority Interest?

- Also known as “non-controlling interest”
- If we own more than 50% of a subsidiary, we consolidate our financial statements with the subsidiary’s
- Even if we own only 51% of Company S, 100% of Company S’s income statement line items are added to our income statement line items
- However, only 51% of Company S’s balance sheet line items are added to our balance sheet items
- The other 49% of Company S’s assets go into one item: “minority interest”
- Minority interest is the part of a subsidiary that we don’t own
- Found in equity section of balance sheet (IFRS)

Graphical Representation of Consolidation / Minority Interest Accounting

ParentCo.

- Income Statement
- Balance Sheet

SubCo.

- Income Statement
- Balance Sheet

Consolidated Entity
(Reported by Parent Corporation)

- Combined Balance Sheet, line-by-line
- Combined Income Statement, line-by-line
- Eliminate things like
  - Inter-company gains and losses
  - Inter-company balances (Assets/Liabilities)
  - Parent’s investment in the subsidiary company
- Minority interest reported (the percent of the subsidiary not owned by the parent) on both statements

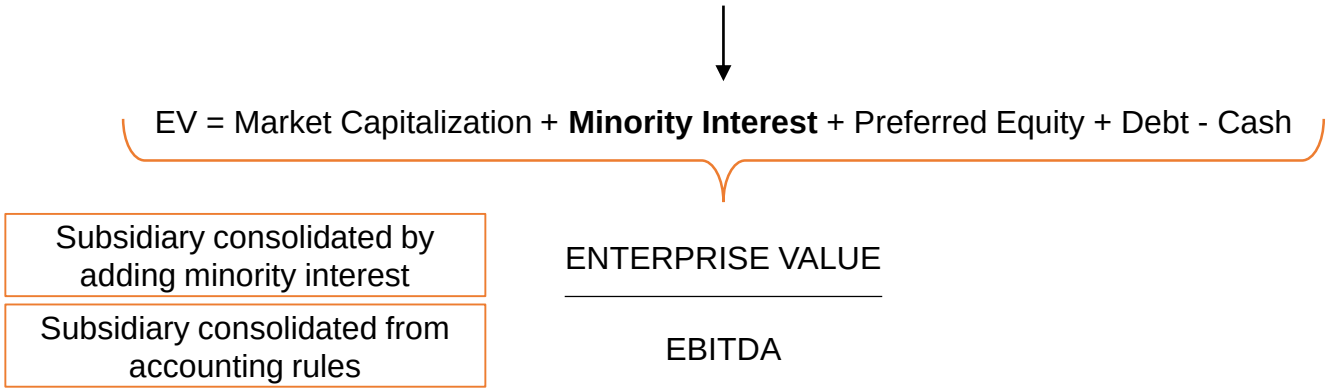
Minority Interest

Why do we add minority interest to get EV?

- EV = Market Cap + Preferred Equity + Debt – Cash + **Minority Interest**
- In enterprise multiples, EV is the numerator, and an income statement line item is often the denominator
- **APPLES TO APPLES**
  - **Denominator:** Income statement line items are consolidated and include 100% of the subsidiary's (Company S) income statement line items
  - **Numerator:** Market Cap + Preferred Equity + Debt accounts for 51% of Company S
    - The 49% we don't own is not factored into the prices of the parent's stock, bonds, or preferred shares
    - To make the numerator consistent with the denominator, we add in the 49% of Company S we don't own (minority interest)

Graphical Representation of EV / EBITDA Multiple Mechanics

- Add the portion of the subsidiary that ParentCo does not own so numerator and denominator are consistent



Equity Method & Short / Long-term Investments

What if we only own 20 – 50% of a company?

- Use the Equity Method
- **Proportionate Consolidation:** If we bought 20% of Company E, we get 20% of Company E's net income on our Income Statement
  - Ignore Company E's stock price
- Company E is worth $100, we pay $20
  - Balance sheet item: Asset (Investment in Company E: $20)
- If Company E reports $10 of net income, we get 20% of that = $2
  - Investment in Company goes up by $2 (Debit)
  - Investment income goes up by $2 (Credit)

Short Term Investments

- Short-term investments with less than 20% control
  - Also known as investments held for trading
- Mark-to-market
- Unrealized gains or losses flow straight to Net Income

Long Term Investments

- Long-term investments with less than 20% control
  - Also known as investments available for sale
- Unrealized gains or losses flow through Other Comprehensive Income (OCI)
  - Only flows through net income after investment is sold